



ECONOMICS

BOOKS - FULL MARKS ECONOMICS (HINGLISH)

PRODUCTION

Ncert Textbook Questions Solved

1. Explain the concept of a production function.



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2. What is the total product of an input?



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3. What is the average product of an input?



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4. What is the marginal product of an input?



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5. Explain the relationship between the marginal products and the total product of an input.

OR

Explain the law of variable proportion with the help of total product and marginal product curves.

OR

Explain the likely behaviour of Total Product and Marginal Product when for increasing

production only one input is increased while all other inputs are kept constant.

OR

State the different phases of changes in Total Product and Marginal Product in the Law of Variable Proportions. Also show the same in a single diagram.



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6. Explain the concepts of the short run and the long run.



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7. What is the law of diminishing marginal product?



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8. What is the law of variable proportions?

OR

Define the law of variable proportion.



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9. When does a production function satisfy constant returns to scale?



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10. When does a production function satisfy increasing returns to scale?



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11. When does a production function satisfy decreasing returns to scale?



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12. The following table gives total product schedule of labour. Find average product and marginal product schedules of labour.

<i>Labour</i>	0	1	2	3	4	5
<i>TP of Labour(Units)</i>	0	15	35	50	40	48



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13. The following table gives the average product schedule of labour. Find the total product and marginal product schedules. It is given that the total product is zero at zero level of labour employment.

L	AP_L
1	2
2	3
3	4
4	4.25
5	4
6	3.5



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14. The following table gives the marginal product schedule of labour. It is also given that total product of labour is zero at zero level of employment. Calculate the total and average product schedules of labour.

L	MP_L
1	3
2	5
3	7
4	5
5	3
6	1



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15. Let the production function of a firm be $Q = 5L^{1/2}K^{1/2}$. Find the maximum possible output that the firm can produce with 100 units of L and 100 units of K.



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16. Let the production function of a firm be $Q = 2L^2K^2$. Find out the maximum possible output that the firm can produce with 5 units of L and 2 units of K. What is the maximum

possible output that the firm can produce with zero unit of L and 10 units of K?



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17. Find out the maximum possible output for a firm with zero unit of L and 10 units of K when its production function is $Q = 5L + 2K$



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18. Explain the concept of a production function.



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19. In which run some factors of production are fixed and others are variable?



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20. What change will take place in marginal product when total product increases at a diminishing rate?



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21. In which phase of Law of Variable Proportions a rational firm aims to operate?



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22. What is meant by diminishing returns to a factor?

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23. What is the general shape of the AP and MP curves?

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24. How does fall in marginal production affect total output?

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25. Why MP curve cuts AP curve at its maximum point?

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26. Can AP rise when MP starts declining?



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27. What is the shape of AP and MP?



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28. Give meaning of "Return to a Factor".



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29. The marginal product of a variable input is best described as:

- A. Total product divided by the number of units of variable input.
- B. The additional output resulting from one unit increase in the variable input.
- C. The additional output resulting from one unit increase in both the variable and fixed inputs.

D. The ratio of the amount of the variable input that is being used to the amount of the fixed input that is being used.

Answer: b



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30. Diminishing marginal returns implies:

A. Decreasing average variable costs.

B. Decreasing marginal costs.

C. Increasing marginal costs.

D. Decreasing average fixed costs.

Answer: c



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31. The short run, as economists use the phrase, is characterized by:

A. 1. At least one fixed factor of production and firms neither leaving nor entering

the industry.

B. 2.A period where the law of diminishing returns does not hold.

C. 3.No variable inputs-that is all the factors of production are fixed.

D. 4.All inputs being variable.

Answer: a



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32. The marginal, average, and total product curves encountered by the firm producing in the short run exhibit all of the following relationships except:

A. When total product is rising, average and marginal product may be either rising or falling.

B. When marginal product is negative, total product and average product are falling.

C. When average product is at its maximum, marginal product equals average product, and total product is rising.

D. When marginal product is at a maximum, average product equals marginal product, and total product is rising.

Answer: d



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33. To economists, the main difference between short run and long run is that:

A. 1. In short run all inputs are fixed, while in long run all inputs are variable.

B. 2. In short run the firm varies all of its inputs to find the least cost combination of inputs.

C. 3. In short run, at least one of the firm's input level is fixed.

D. 4. When marginal product is at a maximum, average product equals marginal product, and total product is rising.

Answer: c



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34. Which one of the following statements is the best definition of production function?

A. 1. The relationship between market price and quantity supplied.

B. 2. The relationship between the firm's total revenue and the cost of production.

C. 3. The relationship between the quantities of inputs needed to produce a given level of output.

D. 4. The relationship between the quantity of inputs and the firm's marginal cost of

production.

Answer: c



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35. Diminishing returns occur:

A. 1. When units of a variable input are added to a fixed input and total product falls.

B. 2. When units of a variable input are added to a fixed input and marginal product falls.

C. 3. When the size of the plant is increased in the long run.

D. 4. When the quantity of the fixed input is increased and returns to the variable input falls.

Answer: b



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36. If the marginal product of labour is below the average product of labour, it must be true that:

A. 1.The marginal product of labour is negative.

B. 2.The marginal product of labour is zero.

C. 3.The average product of labour is falling.

D. 4. The average product of labour is negative.

Answer: c



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37. The average product of labour is maximized when marginal product of labour:

A. 1. Equals the average product of labour.

B. 2. Equals zero.

C. 3.Is maximized.

D. 4.None of these.

Answer: a



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38. The law of variable proportions is drawn under all of the assumptions mentioned below except the assumption that:

A. 1.The technology is changing.

B. 2. There must be some inputs whose quantity is kept fixed.

C. 3. We consider only physical inputs and not economic profitability in monetary terms.

D. 4. The technology is given and stable.

Answer: a



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39. Average product is defined as:

- A. 1.Total product divided by the total cost.
- B. 2.Total product divided by the marginal product.
- C. 3.Total product divided by the variable input.
- D. 4.Marginal product divided by the variable input.

Answer: c



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40. The change in the total product resulting from a change in a variable input is:

- A. 1.Average cost
- B. 2.Average product
- C. 3.Marginal cost
- D. 4.Marginal product

Answer: d



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41. Marginal product, mathematically, is the slope of the

- A. 1.Total product curve
- B. 2.Average product curve
- C. 3.Marginal product curve
- D. 4.Implicit product curve

Answer: a



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42. Diminishing marginal returns for the first four units of a variable input is exhibited by the total product sequence:

A. 50, 50, 50, 50

B. 50, 110, 180, 260

C. 50, 100, 150, 200

D. 50, 90, 120, 140

Answer: d



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43. Differentiate , between Short Period and Long Period.



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44. Differentiate between Short Period production and Long Period production function .



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45. Explain the relationship between Marginal product and Average Product.

OR

State the relation between Marginal product and average product. Use diagram.



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46. Explain the relationship between Total Product and Average Product.



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47. Explain the relationship between Total Product, Average Product and Marginal Product.



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48. What is the reaction of AP, when:

(i) MP is more than AP.

(ii) MP is less than AP.

(iii) MP is equal to AP.



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49. What is the behaviour of TP, when

(i) MP rises

(ii) MP falls, but remains positive

(iii) MP is zero

(iv) MP becomes negative?



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50. Complete the following table.

Units of labour	TP	MP_L	AP_L
1	20	-	-
2	-	22	-
3	-	-	22



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51. Complete the following table.

Units of labour	0	1	2	3	4	5
Total product	-	-	-	-	-	-
Average product	-	-	-	-	-	-
Marginal product	0	10	12	14	14	12



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52. Complete the following table:

Units of Labour	(Q) Average Product (Units)	Marginal Product (Units)
1	8	—
2	10	—
3	—	10
4	9	—
5	—	4
6	7	—



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53. What is the law of variable proportions?

OR

Define the law of variable proportion.



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54. Complete the following table:

Units of Labour	TPP (in ₹)	APP (in ₹)	MPP (in ₹)
1	100	—	—
2	—	—	140
3	—	140	—
4	480	—	—



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55. When the quantity of a variable input is increased from 3 units to 4 units, the total output increases from 70 units to 85 units. The marginal product of the variable input is 15 units.



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56. When the quantity of a variable input is increased from 4 to 6 units, the total output increases from 85 units to 105 units. The

marginal product of the variable input is 20 units.



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57. When the marginal product of a variable input falls, total product also falls.



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58. When there are diminishing returns to a factor, total product always decreases.



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59. Total product will increase only when marginal product increases.



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60. Increase in total product always indicates that there are increasing returns to a factor.



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61. When there are diminishing returns to a factor, marginal and total product both always fall.



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62. When there are diminishing returns to a factor, total product first increases and then starts falling.



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63. Total product always increases whether there is increasing returns or diminishing returns to a factor.



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64. If marginal product rises, average product must also rise.



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65. If marginal product falls, average product must also fall.



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66. If marginal product becomes negative, average product must also become negative.



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67. Average product will increase only when marginal product increases.

OR

Average product rises only where marginal product rises.



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68. Under diminishing returns to a factor, total product continues to increase till marginal product reaches zero.



69. State the behaviour of marginal product in the law of variable proportions. Explain the causes of this behaviour.

Or

Giving reasons, explain the law of variable proportion.

Or

What are the different phases in the Law of Variable Proportions in terms of marginal

product? Give reason behind each phase. Use diagram.



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70. If diminishing marginal returns will set in after the very first unit of labour is employed? What do the average product, and marginal product curves look like in this case ?



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71. Explain the differences between variable factors and fixed factors.



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72. Explain how is it possible for marginal product to fall while average product is rising?



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73. Assume the marginal product for a particular good is constant. Describe the shape of the total product function that would accompany it.



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74. Comment on the following statement:
"When average product and marginal product are equal, marginal product is at its maximum."





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75. Comment on the following statement:

"Diminishing returns occur when total output falls as additional units of labour are combined with fixed inputs in the production process."



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76. A farmer in Punjab transports wheat from the farm to a flour mill. Is this activity

considered as production? Why?



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77. How can the productivity of Human resources be increased?



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78. Availability of agricultural land (fixed factor) is limited in the world, but demand of food grain is continuously increasing. Is it possible

to increase the supply of food grains by continuously increasing variable factors like seeds, fertilizers etc.?



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79. Though the contribution of plastic industry in GDP is more, yet why is it not considered an Index of social welfare?



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80. Which one of the following will be treated as labour in economics? Give a reason for each.

(i) Preparation of food by a housewife.

(ii) Singing for one's own pleasure.

(iii) Driving his master's car by a driver.

(iv) Playing cricket by Virat Kohli.



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81. What efforts should be made in an economy for the continuous use of exhaustible natural resources in production?



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82. The data below shows the relationship between total output and the amount of labour hired at Papa's Pizza Shop



Does the production function in the above table exhibit diminishing marginal returns?



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83. Give reasons for the following statements:

(i) Variable factor proportions obtain in the short run.

(ii) Fixed factor proportions obtain in the long run.



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84. If the total product curve is a straight line through the origin, what would be the shape of the average product and marginal product curves look like?



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85. Explain the differences between variable factors and fixed factors.



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86. Give reasons for the following statements:

(i) Variable factor proportions obtain in the short run.

(ii) Fixed factor proportions obtain in the long run.



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